



In the United States Patent and Trademark Office

APPLICANT: BAREFIELD, KEVIN et.al.) ART UNIT: 1732
APPLICATION #: 10/730,564) EXAMINER: S. STAICOVICI
FILED: 12/08/2003)
FOR: RESIN INFUSION POTTING

APPEAL BRIEF OF PETITIONERS

Pursuant to 37 CFR §§ 1.192(a) and 41.37, the Petitioners, Kevin J. Barefield and Richard V. Campbell hereby serve their Appeal Brief.

I. STATEMENT OF REAL PARTY IN INTEREST

The Applicants in this matter are Kevin J. Barefield and Richard V. Campbell.

Applicants have assigned their rights to this invention to Bright Technologies, LLC. Thus, LLC is the real party in interest.

II. STATEMENT AS TO RELATED APPEALS AND INTERFERENCES

To the knowledge of Applicants, there are presently no related appeals or interferences.

III. STATEMENT AS TO THE STATUS OF THE CLAIMS

Claims 11-12 and 20-21 of the pending application currently stand rejected. The Petitioners are appealing the decisions to each and every rejected claim. A listing of the status of each and every pending claim is as follows:

1. Canceled.
2. Canceled.

3. Canceled.
4. Canceled.
5. Canceled.
6. Canceled.
7. Canceled.
8. Canceled.
9. Canceled.
10. Canceled.
11. Rejected.
12. Rejected.
13. Canceled.
14. Canceled.
15. Canceled.
16. Canceled.
17. Canceled.
18. Canceled.
19. Canceled.
20. Rejected.
21. Rejected.

The Rejection as to each and every rejected claim is appealed.

IV. STATUS OF AMENDMENTS

Applicant has not submitted any amendments subsequent to final rejection.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The invention relates to a method for attaching an anchor to a cable using a form of molding. In order to accomplish the objective of attaching the anchor to the strands, a separate injector is clamped to the open end of the anchor in order to create a seal around the anchor. The creation of the seal allows the liquid potting compound to be injected into the strands under pressure.

In the following section, the Applicants attempt to comply with 37 CFR §41.37(c)(5). There are two independent claim presented in this appeal – Claim 11 and Claim 20. Claims 11 and 20 are stated again below, with annotations to the reference numbers and drawings figures from the original specification.

Claim 11. A method for attaching an anchor having an internal passage and an open end to a region of strands on an end of a cable, comprising:

- a. exposing said region of strands in said cable (such as element (16) in FIG. 1);
- b. placing said region of strands within said internal passage of said anchor (as shown as elements (54) and (18) in FIG. 10);
- c. providing an injector (element (46) in FIG. 10), including
 - i. a sealing surface (anchor facing surface of element (46) in FIG. 10);
 - ii. a needle (element (48) in FIG. 11), extending from said sealing surface, having a first end proximate said sealing surface and a second end distal to said sealing surface;
 - iii. an injection orifice proximate said second end of said needle (element (50) in FIG. 10);

- d. clamping said injector against said open end of said anchor so that said needle protrudes into said region of strands and said sealing surface seals said open end of said anchor (shown in FIG. 11);
- e. providing a potting compound which transitions from a liquid state to a solid state over time;
- f. injecting said potting compound, in said liquid state, under pressure into said strand cavity through said injection orifice, so that said liquid potting compound infuses throughout said region of strands (described in specification page 8, lines 17-19);
- g. withdrawing said needle while said potting compound is still in said liquid state (described in specification page 8, lines 19-20); and
- h. allowing said liquid potting compound to harden into a solid, thereby locking said region of strands within said anchor (described in specification page 8, line 20).

Claim 20. A method for attaching an anchor having an internal passage and an open end to a region of strands on an end of a cable, comprising:

- a. exposing said region of strands in said cable (such as element (16) in FIG. 1);
- b. placing said region of strands within said internal passage of said anchor (as shown as elements (54) and (18) in FIG. 10);
- c. providing an injector (element (46) in FIG. 10 and 9B), including
 - i. a sealing surface (anchor facing surface of element (46) in FIG. 10);
 - ii. an injection orifice in said sealing surface (element (50) in FIG. 9B);
- d. clamping said injector against said open end of said anchor so that said injection orifice is directed toward said region of strands and said sealing surface seals said

- open end of said anchor (shown in FIG. 11);
- e. providing a potting compound which transitions from a liquid state to a solid state over time;
 - f. injecting said potting compound, in said liquid state, under pressure into said strand cavity through said injection orifice, so that said liquid potting compound infuses throughout said region of strands (described in specification page 8, lines 17-19); and
 - g. allowing said liquid potting compound to harden into said solid state, thereby locking said region of strands within said anchor (described in specification page 8, line 20).

VI. GROUNDS OF REJECTION TO BE REVIEWED UPON APPEAL

1. Whether claims 11-12 are obvious over Flory (U.S. Patent No. 5,611,636) in view of Newton (U.S. Patent No. 5,132,069) and are therefore unpatentable under 35 U.S.C. § 103(a).
2. Whether claims 20-21 are obvious over Schimmeyer (U.S. Patent No. 3,570,074) in view of Sugerman (U.S. Patent No. 2,604,362) and are therefore unpatentable under 35 U.S.C. § 103(a).

VII. ARGUMENT

A. A prima facie case of obviousness has not been established with respect to Claims 11-12, because the references do not teach all of the limitations of the claims.

A prior art reference does not create a case of prima facie obviousness if it fails to disclose a material element or limitation claimed in the present invention. *In re Evanega*, 829

F.2d 1110 (Fed. Cir. 1987). None of the references disclose the step of “*clamping said injector against said open end of said anchor* so that said needle protrudes into said region of strands and *said sealing surface seals said open end of said anchor.*”

Instead, the Examiner cited Newton for teaching a molding process where the injector forms a sealing surface with the mold and argues that it would be obvious to employ the injection molding technique of Newton to fill the anchor taught by Flory. Applicant notes that none of the references disclose the step of clamping the anchor and injector together such that the sealing surface of the injector seals the open end of the anchor. This seal is important. Without such a seal, the pressurized injection of the potting compound would cause the potting compound to splatter out of the anchor and the anchor cavity would not be completely filled. Petitioner's invention uses the anchor itself as part of a sealed mold. Petitioner respectfully submits that such an innovation is much more than an ordinary modification of prior art processes that would be known to one that is skilled in the art. By using the anchor as the mold, the anchor is locked snugly to the termination when the resin cures. Also, Petitioner's innovation allows “anchored” terminations to now be manufactured as part of a machine-operated assembly line.

It is axiomatic that the prior art to be considered under section 103 must be analyzed in the absence of any teaching from the claimed invention. Such an evaluation requires the often difficult task of excluding anything taught or suggested by the present invention from one's mind. *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861 (Fed.Cir.1985).

In the abstract, this proposition is straightforward. However, courts have often struggled in applying it to relatively simple inventions. This is true because a relatively simple invention - once revealed by its creator - is easily understood. Thereafter, one is prone “to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used

against its teacher.” *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553 (Fed.Cir. 1983).

The United States Court of Appeals for the Federal Circuit discussed this issue in the case of *In Re Dembiczak*, 175 F.3d 994 (Fed.Cir. 2000), *limited on other grounds by In Re Gartside*, 203 F.3d 1305 (Fed.Cir.2000). *Dembiczak* involved a patent claim on the now-familiar orange trash bags with the printed Jack-O-Lantern faces.

The Dembiczak patent application was rejected by the U.S.P.T.O., then rejected by the Board of Patent Appeals and Interferences. In reversing these decisions, the Federal Circuit noted that “[T]he best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.” *Id.* at 999.

The evidence of a suggestion, teaching, or motivation to combine prior art references must be established in order to set forth a prima facie case of obviousness. *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 297 (Fed.Cir.1985). This evidence must come from the prior art references themselves, the knowledge of one who is skilled in the art, or from the suggestions inherent in the nature of a problem to be solved. *ProMold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573 (Fed.Cir.1996).

Petitioners respectfully submit that the requirements for a prima facie case of obviousness have not been established in this case. Instead, Petitioners suggest that the P.T.O has fallen into the trap the *Dembiczak* opinion warns so sternly against - that of using the inventor’s own disclosure to suggest combinations in order to defeat patentability. Specifically, the P.T.O. has not shown that one skilled in the art would be motivated to use the anchor *itself* as part of a sealed mold absent Petitioner’s disclosure.

Petitioners further note that a suggested modification to a reference which destroys the intent, purpose, or function of the invention disclosed in the reference does not establish a case of prima facie obviousness. This is true because, in such a case, there would be no motivation to modify the prior art reference in the fashion proposed by the Examiner. *In re Gordon*, 733 F.2d 900 (Fed.Cir. 1984).

Significant modification would need to be performed to Flory's anchor in order for such an anchor to be clamped against an injector in such a way that the open end of the anchor could be sealed (an element recited in Petitioners' claim). Flory utilizes at least one attachment lug which extends outward from the surface of the anchor to allow the anchor to be attached to a fixed point or another object (see attachment lug (24) in FIG. 2). This attachment lug would prevent Flory's anchor from forming a seal with the injector or working in Petitioners claimed process. Because these features would need to be removed from Flory's anchor, the modification would destroy the intent, purpose, and function of these features and render Flory's anchor unsuitable for the purposes of his invention. As such, there is no evidence to suggest that one that is skilled in the art would develop Petitioners invention in natural course absent the teachings of the Petitioners specification.

B. A prima facie case of obviousness has not been established with respect to Claims 20-21, because the references do not teach all of the limitations of the claims.

None of the references disclose the step "***clamping said injector against said open end of said anchor*** so that said injection orifice is directed toward said region of strands ***and said sealing surface seals said open end of said anchor.***"

Although Schimmeyer discloses a rope end fitting which utilizes a pin (26) to seal the

open end of the termination, the purpose of the pin is to splay the ends of rope toward the side walls of the anchor as the resin cures. (Column 2, lines 48-54). Schimmeyer applies the potting compound before the open end of the anchor is sealed by the pin. (Column 3, lines 1-14).

The Examiner cites Sugerman – which teaches a process for making a hairbrush – for teaching Petitioner’s injection steps. Sugerman does not teach the step of “clamping said injector against said open end of said anchor,” however. Sugerman simply discloses that the resin can be poured or otherwise injected into the mold through the bores (19 or 20) in the flange (12). Petitioner respectfully submits that one skilled in the art would not interpret this disclosure to describe the act of clamping an injector to an open end of an anchor. The act of injection in Sugerman’s application could be accomplished by simply inserting a needle into one of the bores and injecting the resin through the needle. One skilled in the art would not be motivated to clamp an injector to an anchor based on the disclosures of Sugerman and Schimmeyer.

Further, significant modification would be required of Schimmeyer’s pin for it to function as Petitioner’s claimed “injector.” In particular, if pin (26) was part of Petitioner’s claimed injector, a manifold for holding and dispensing potting compound would need to be fluidly attached to pin 26 at some location. This would present problems when attaching Schimmeyer’s anchor member (16) over the pin (see FIG. 1). Because such a modification destroys the intent, purpose, and function of Schimmeyer’s end fitting, there would be no motivation to modify the prior art reference in the fashion proposed by the Examiner. *In re Gordon*, 733 F.2d 900 (Fed.Cir. 1984).

A secondary reference may not be pulled from a field in which one skilled in the art of the proposed invention would not be reasonably expected to look. This principle was explained by the old C.C.P.A. in the case of *In re Winslow*, 151 U.S.P.Q. 48 (C.C.P.A. 1966):

Section 103 requires us to presume full knowledge by the inventor of the prior art in the field of his endeavor ... but does not require us to presume full knowledge by the inventor of prior art outside the field of his endeavor, i.e., of "nonanalogous" art. In that respect it only requires us to presume that the inventor would have had that ability to select and utilize knowledge from other arts reasonably pertinent to his particular problem which would be expected of a man of ordinary skill in the art to which the subject matter pertains.

151 U.S.P.Q. at 287 (with apologies for the antiquated gender-specific language).

"Two criteria have evolved for determining whether prior art is analogous: (1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved." *In re Clay*, 966 F.2d 656, 658-59 (Fed. Cir. 1992).

In the present case the Examiner has attempted to apply Sugerman as a secondary reference to support the modification of Schimmeyer's end fitting. Sugerman is outside of the inventor's field. Sugerman relates to the field of hairbrush manufacturing. (Column 1, lines 1-4) Petitioner's invention relates to the field of cables and ropes. (Petitioner's specification, page 2, lines 3-5) In *In re Clay*, the Federal Circuit held that the PTO's position was clearly erroneous when they cited patents relating to the use of gel in the petroleum industry as analogous art. In doing so the Court held that hydrocarbon *storage* and hydrocarbon *extraction* are not the same field of endeavor. *Id.*

Since the Sugerman reference is not from the same field of endeavor, then it must be "reasonably pertinent to the particular problem with which the inventor is involved" to be considered analogous art. The question of whether a reference is "pertinent to the particular problem" requires one to look at the "purpose" or what the invention "functions to" do. *Id.* Petitioner's invention functions to infuse strands of a cable with potting compound to form a

termination at the end of a cable. Sugerman's invention functions to attach bristles to the body of a hairbrush.

Petitioner respectfully submits that one would only be motivated to clamp an injector to an anchor when forming a cable termination after reviewing the teachings of Petitioner's disclosure. Further, one that is skilled in the art would not be compelled to investigate the field of hairbrush manufacturing to ascertain preferential methods of attaching anchors to cables.

WHEREFORE, the Petitioners hereby request that the Board of Patent Appeals and Interferences reverse the rejections previously entered by the Examiner.



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APPENDIX CONTAINING A COPY OF THE APPEALED CLAIMS

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Cancelled)
6. (Cancelled)
7. (Cancelled)
8. (Cancelled)
9. (Cancelled)
10. (Cancelled)
11. A method for attaching an anchor having an internal passage and an open end to a region of strands on an end of a cable, comprising:
 - a. exposing said region of strands in said cable;
 - b. placing said region of strands within said internal passage of said anchor;
 - c. providing an injector, including
 - i. a sealing surface;
 - ii. a needle, extending from said sealing surface, having a first end proximate said sealing surface and a second end distal to said sealing surface;
 - iii. an injection orifice proximate said second end of said needle;
 - d. clamping said injector against said open end of said anchor so that said needle protrudes into said region of strands and said sealing surface seals said open end of said anchor;

- e. providing a potting compound which transitions from a liquid state to a solid state over time;
 - f. injecting said potting compound, in said liquid state, under pressure into said strand cavity through said injection orifice, so that said liquid potting compound infuses throughout said region of strands;
 - g. withdrawing said needle while said potting compound is still in said liquid state; and
 - h. allowing said liquid potting compound to harden into a solid, thereby locking said region of strands within said anchor.
12. A method as recited in claim 11, further comprising the additional step of providing said injector with a vent.
13. (Cancelled)
14. (Cancelled)
15. (Cancelled)
16. (Cancelled)
17. (Cancelled)
18. (Cancelled)
19. (Cancelled)
20. A method for attaching an anchor having an internal passage and an open end to a region of strands on an end of a cable, comprising:

- a. exposing said region of strands in said cable;
- b. placing said region of strands within said internal passage of said anchor;
- c. providing an injector, including
 - i. a sealing surface;
 - ii. an injection orifice in said sealing surface;
- d. clamping said injector against said open end of said anchor so that said injection orifice is directed toward said region of strands and said sealing surface seals said open end of said anchor;
- e. providing a potting compound which transitions from a liquid state to a solid state over time;
- f. injecting said potting compound, in said liquid state, under pressure into said strand cavity through said injection orifice, so that said liquid potting compound infuses throughout said region of strands; and
- g. allowing said liquid potting compound to harden into said solid state, thereby locking said region of strands within said anchor.

21. A method as recited in claim 20, further comprising the additional step of providing said injector with a vent.

22. (Cancelled)

EVIDENCE APPENDIX

No evidence has been submitted pursuant to 37 CFR §§ 1.130, 1.131, or 1.132.

RELATED PROCEEDING APPENDIX

To the Applicant's knowledge, there are no related proceedings.